

## Middle School STEM Unit Seed

**Unit Title:** Effect of Humans on the Environment

**Grade Level(s):** 8<sup>th</sup> Grade

**Subject/Topic Areas:** United States History to 1877, Environmental Science

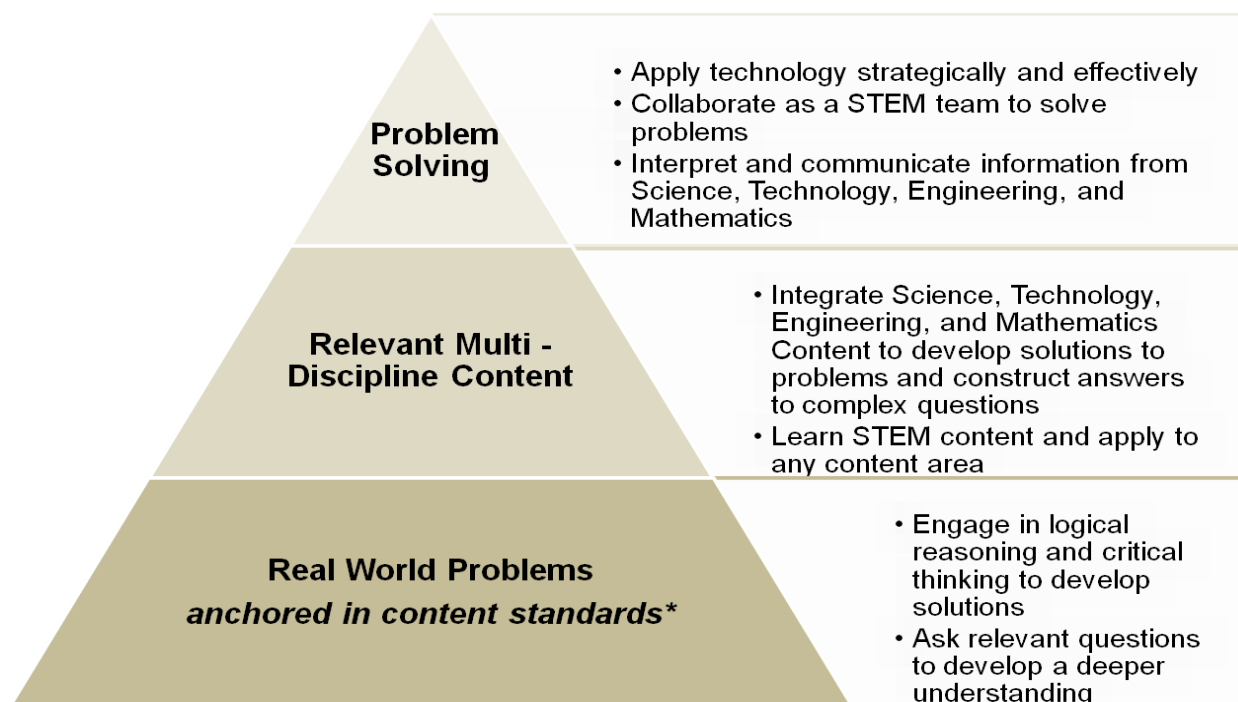
**Key Words:** Social Studies, Environment, STEM

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**Local Education Agency:** Wicomico County

**Overview:** This is a brief summary of what students will learn in the unit. It explains the unit's focus and real world connection.

Students will analyze the national issue of how historical human activity has impacted the environment. In order to do this, students will evaluate how geography influenced settlement and the development of various economic activities along the east coast during the colonial period. Students will then further examine how settlement and economic activities impacted the environment. Students will design modifications to tools, scientific and/or technical solutions to mitigate negative impacts.



**Enduring Understanding:** These go beyond discrete facts or skills to focus on larger concepts, principles, or processes. They are transferable—applicable to new situations within or beyond the subject.

1. Humans choose settlement locations based on geographic features.
2. Economic activities of humans can have a negative impact on the environment.

**Essential Questions:** Essential questions are open-ended questions that provoke inquiry about the core ideas for the unit. They are grade-level appropriate questions that prompt intellectual exploration of a topic.

1. How can humans effectively utilize the land without permanent damage?
2. How are the economic activities in an area a product of the geography/environment?

### Lesson Seed Ideas.

1. Analyze another area of the world where humans have destroyed the environment (rainforest, Gulf of Mexico, modern day Chesapeake Bay) and evaluate the pros and cons of the decisions made possibly through an in-class debate. Predict future negative impacts to the environment and design scientific and/or technological solutions that would mitigate the negative impact. Present scale model designs.
2. Evaluate how historical decisions have impacted the present day in regards to land use and economic activities. Design scientific and/or technological solutions that would mitigate the negative impact. Present scale model designs.
3. Evaluate the costs and benefits of colonization of North America and identify why colonists chose specific geographic areas conducive to settlement. Examine how the geography has changed from pre-colonization to present day using tools such as Google Earth. Create scaled (using proportions) physical maps and models of the land before and after settlement in order to draw comparisons.

### **Lesson Seed Ideas.**

4. Create a working model (to scale) of one of the various methods of water transportation used during the time period (i. e. shallops, schooners, sloops, brigs, caravels, and canoes) after researching the pros and cons of each and defend the reason behind the choice they have made. Create and/or improve a tool which was used during the time period which aided in farming or fishing after researching the uses and present your tool to the class.